

If one major war follows another at 25 year periods, the iron supply may be exhausted in less time.

The outlook for the future is that the dominant nation will be the one which conserves its iron resources to the greatest degree. The nation which permits its iron resources to be exhausted first may prove the easiest victim of its enemies. This conservation, of course, should include the ore supply as well as the scrap supply. There is a good prospect that, sooner or later, nations will have to prohibit the exporting of iron from their confines. The simple reason will be that their supplies are too low to make it safe to export anything which is vital to national defense and also close to exhaustion.

One of the most serious problems in national defense, therefore, not only now but in the future, is the conservation of our metal resources. It is im-

portant that we turn more and more to materials which are more nearly, if not entirely, inexhaustible. That means turning more and more to products such as wood, because trees can be grown within a reasonable time, also to materials which can be made from plants that can be raised on the soil. In other words, the need has arisen for making greater use of materials which can be replaced, and restricting those which cannot be replaced.

All this leads to the conclusion that no greater contribution can be made to permanent national defense than to design and build machines and equipment that will conserve iron. This will help ease the demand for steel, and conserve our metal supplies for purposes which do not admit of using substitute materials.

The present war promises to give such an impetus to the airplane industry that it will be but a matter of time before there will be more planes in the air than there are motor vehicles on the highways. There is a wide range of choice in materials which can be used for planes of the future. The material finally selected will be determined in no small measure by the skill, ingenuity and originality of the designers of the machines and equipment required for that particular material. If the designers in the metal fields produce better designs than do those in the field of wood, metal will predominate in future planes. If designers in the wood-working industries produce the best designs, wood will be the material generally adopted for planes.

If most planes are made of metal, it will place an increasing strain upon our metal reserves. When future wars are fought, it may become necessary to gather up more and more of the things made of metal for civilian purposes,

and utilize that metal for making implements of war. If more and more things are made of metal substitutes and the demand for metal is reduced as much as possible, we shall create a reserve, conserving our resources to a degree which should make our defense position very much stronger.

Working on new designs, building machines which will make it possible for wood to compete with metal on at least even terms, is no longer merely a matter of business. To a greater and greater degree it will come to be a matter of patriotism, a matter of real national defense. About a third of the iron deposits of the world are here within the borders of the U. S. They include at least a third of the known deposits of commercial-grade ore. Just as with our other national resources, however, we have been wasteful of our metal resources. We have used metal to a greater and greater degree. We have exported it in huge quantities. Much of our iron and steel is being blown into little pieces on the battlefields of Asia, Europe, and Africa. It is being sunk below the surface of the oceans. We are depleting our reserve at a steadily increasing rate and do not seem to realize that the reserve is steadily dwindling.

Obviously, there is but one way of conserving metal. That way is to manufacture more and more products, ordinarily made of metal, from other materials and to make such products better and at lower cost than they have been made before. This cannot be done without the right machines and the right equipment. Automobile bodies are now made of metal largely because of the development of machines and equipment for pressing steel and making stampings. Without such machines and equipment, an all-metal automobile body would probably be prohibitive in cost. If machinery and equipment were already on the market which

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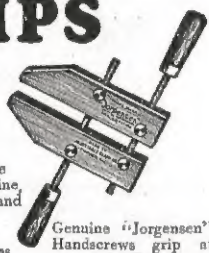
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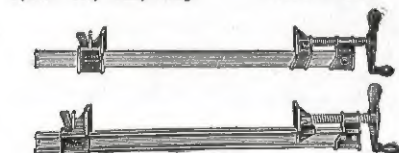
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